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ABSTRACT

A study was conducted to identify staffing patterns for nursing personnel in the health care institutions of Oklahoma in order to predict future needs for nursing education and training. Structured interviews with administrators and directors of nursing from eighteen hospitals and eighteen nursing homes were used to elicit demographic data concerning each institution, desired staffing patterns, and identification of the most critical training needs for nursing personnel. Results of the survey indicate that (1) staffing patterns differ between hospitals and nursing homes, (2) when licensed and/or registered nurses are available, there will be a significant reduction of nursing aides in hospitals and an increase of registered nurses and licensed practical nurses in nursing homes, (3) the most critical need for nursing services in both types of institutions is more clinical training pre-service, and (5) a critical need for geriatrics training is also a problem in nursing homes. (The nursing interview questionnaire and the nurse training competency opinionnaire are appended.) (Author/LRA)

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A SURVEY OF NURSE TRAINING NEEDS IN OKLAHOMA HEALTH CARE INSTITUTIONS

written by

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ABSTRACT

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Author: William D. Frazier

The purpose of this study was to compare current nursing staff patterns in hospitals and nursing homes in Oklahoma to preferred staffing patterns of the future--given that personnel with the various levels of training were in ample supply.

Interviews were conducted with administrators and directors of nursing from 18 hospitals and 18 nursing homes. Samples were randomly selected from populations of 138 hospitals and 371 nursing homes. Samples were stratified by size of institution in terms of number of beds.

Results indicate: (1) staffing patterns differ between hospitals and nursing homes, (2) administrators and directors of nursing were in close agreement on preferred nursing staff patterns, (3) when licensed and/or registered nurses are available there will be a significant reduction of nursing aides in hospitals and an increase of registered nurses and licensed practical nurses in nursing homes, (4) the most critical need for nursing services in both type institutions is more clinical training pre-service, and (5) a critical need for geriatrics training is also a problem in nursing homes.

It was concluded that all levels of nursing education are still needed in Oklahoma. Among the recommendations were (1) to maintain LPN programs and increase or enlarge registered nurse programs, (2) to increase clinical experience pre-service, and (3) to offer nurse aide training with geriatrics emphasis to better serve nursing homes.

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INTRODUCTION

This study was developed as a result of expressed needs by staff in the Planning Unit and the Division of Health Occupations Education of the Oklahoma State Department of Vocational and Technical Education. The State Department has explicit responsibility for supporting the education of nursing services personnel below the baccalaureate level. This responsibility extends to meeting the needs of both individuals who desire training in nursing services and needs of health care institutions for trained nursing personnel. Recognition of the need for long range planning to bring about constructive changes in the nursing services programs led to this study.

Recent history indicates that planned changes need to be based on the best possible information, i.e., current status and predicted futures. Since the middle 1960's, Oklahoma has had five basic levels of nursing services education: nursing assistant or nurse aide, licensed practical nurse, associate degree registered nurse, diploma (hospital trained) registered nurse, and baccalaureate registered nurse. The newest level of programs for the associate degree nurse (ADN) was developed to meet the extreme shortages of registered nurses. The ADN program, however, has virtually replaced the diploma program and now prepares a majority of the registered nurses in Oklahoma each year.

The nursing profession throughout the period has examined the efficacy of the various levels of nursing programs. The National League for Nursing (NLN) for the past twenty years has been recommending that nursing courses should be concentrated in the last two years of a four-year baccalaureate program for registered nurses. The American Nurses Association (ANA) has advocated similar programs, and in 1964, the ANA House of Delegates passed a resolution that the BS degree

should be the minimum entry level into professional nursing. The resolution was expanded to a position paper in 1965.

Legislation was introduced in New York in 1976 to establish two levels of licensure: a professional nurse level requiring a BS degree and a technical nurse level requiring an associate degree. No mention was made of the licensed practical nurse level. Although the bill was defeated, national attention has been brought to bear on the appropriate levels of nursing education. Ohio, Minnesota, Oregon, and perhaps other states have completed studies related to the question. The Kellogg Foundation, through the Southern Regional Education Board, is now funding a major eight-state examination and reconstruction of the nursing education programs in those states.

The primary purpose of this study was to compare current staffing patterns in hospitals and nursing homes in Oklahoma to preferred staffing patterns of the future--given that personnel with the various levels of nursing training were in ample supply. A secondary purpose, developed after the study was designed, was to identify training levels necessary to perform tasks which have been assigned in various health care institutions to persons trained at levels from nurse aide to registered nurse.

In order to give direction to the design of the project, three hypotheses were developed:

1. There will be no significant difference between current staffing patterns and desired staffing patterns of nursing services personnel in health care institutions in Oklahoma.

2. There will be no significant differences in future staffing patterns of nursing services personnel desired between health care institution administrators and directors of nursing.

3. There will be no significant differences in future staffing patterns of nursing services personnel desired between hospitals and nursing homes.

The three hypotheses were not developed as a result of hypothetical constructs derived from the literature, but rather, from the empirical (perhaps biased) observations of those State Department staff and local educators who had input to the development of the project. The first hypothesis was based primarily on the known shortage of nursing personnel in Oklahoma. It was assumed that institutional staffing based on current availability would differ from desired staffing unless there was no shortage of properly trained personnel.

The second hypothesis was derived from the recognition of problems arising from desires to provide the highest quality nursing service while keeping patient costs as low as possible. If the major objective of the director of nursing is to see that high quality nursing services are available, and the administrator must have a major objective relating to hospital costs, there might be significant differences of opinion with regard to the desired levels of training (and personnel costs) of the nursing staff. The hypothesis was stated in an effort to assure the credibility of the predictions implied in the study.

The third hypothesis was made because of expected differences in staffing patterns between hospitals and nursing homes. Since their basic purposes are different, it was assumed that separate predictions might be necessary. The hypothesis tests that assumption.

Design and Methodology

The purpose of this study was to identify staffing patterns for nursing personnel in health care institutions in order to predict future needs for nursing education and training.

It was recognized that nursing personnel work in a great variety of settings including hospitals, nursing homes, doctors' offices, schools, and industry. The number and education level of school nurses is reasonably stable. Although there is a tendency toward schools that have a fulltime school nurse, the increase in numbers of such schools is probably equalled by reductions caused by fewer students and the current economic pinch in schools. The number of industrial nurses is probably related most directly to the economy and to the amount of new and expanding industry, which assumption seemed to be beyond testing in the scope of this study. It was assumed that the number of trained nursing personnel in doctors' offices and clinics would be somewhat related to the available supply of nursing personnel at various levels.

A large majority of nursing personnel in Oklahoma are employed in hospitals and nursing homes; therefore, this study is limited to analysis of these two institution types. The populations were identified by use of two State Department of Health publications, "1978 Directory of Licensed Hospitals," which listed 172 facilities; and "1978 Directory of Licensed Rest Homes, Nursing Homes, Intermediate Care Facilities, and Specialized Homes," which listed 371 facilities. A random sample of the facilities, stratified by size according to the number of beds, was drawn for each population. A ten percent sample was selected from hospitals and a five percent sample was selected from nursing homes. The samples were reviewed for representativeness by the State Supervisor of Health Occupations Education, resulting in a change in the definition

of the hospital population. There were three State mental hospitals, eight federal hospitals, three ambulatory surgical centers, and 15 alcoholism treatment centers listed in the directory for hospitals. None of these were represented in the sample, and it was pointed out that these types and the Veterans Centers all had different purposes than did hospitals. The decision was made to use the samples as drawn, but to generalize findings only to 138 hospitals, 5 Veterans Centers, and the 371 nursing homes. The samples and populations, displayed in Table I, constitute twelve percent of the hospitals, twenty percent of the veterans centers, and five percent of the nursing homes.

Instrumentation was to be a structured interview used to elicit demographic data concerning each institution, desired staffing patterns as expressed by the administrator and by the director of nursing, and identification of the most critical training needs for nursing personnel. In addition, a modified Nurse Training Competency Opinionnaire was administered to obtain views of the respondents with regard to nursing education levels required to perform specific nursing tasks.

The structured interview was developed by Research Unit staff with assistance from the State Supervisor of Health Occupations Education. The Nurse Training Competency Opinionnaire was adapted from one developed and administered in Minnesota by Educational Management Services, Inc. Rationale for the opinionnaire is described in the study report, "A Study of the Status and Viability of Licensed Practical Nursing Programs in the State of Minnesota."

Both instruments were reviewed in a meeting with coordinators of the Licensed Practical Nurse programs in Oklahoma. Minor changes in wording to better reflect Oklahoma terminology, and expansion of three items into ten items to reflect single tasks were results of this meeting.

Instruments were then tested in Stillwater Municipal Hospital by the project director and graduate research assistants who would be conducting the interviews. No additional revisions were deemed necessary as a result of this field test.

Letters requesting cooperation were mailed to the administrator of each institution selected in the samples. Enclosed with the letter were the opinionnaire and copies of the letter and opinionnaire to be routed to the director of nursing. The letters and instruments are displayed in the Appendix.

Specific dates were made by telephone with the administrators to conduct the interviews, which were conducted at each institution. At the same time the interviews were completed, project staff also obtained the completed opinionnaires. With regard to the interviews, the first item regarding current staffing was obtained from institutional records and not necessarily from either the administrator or director of nursing. At the outset it was discovered that training levels of registered nurses could not be obtained; therefore, the three levels were combined. The remaining questions were asked of each respondent individually. The first interviews were conducted jointly by the interviewers to assure that questions were asked in the same manner each time. Question 3 relating to staffing patterns five years from now was always qualified by the givens that no shortages would exist and they could obtain qualified personnel at all levels, and that the facility size would remain constant.

Two limitations of the design and procedures for data collection may have effect on the results of the study. In a few cases, the two respondents at an institution were interviewed together. In each case, the person who had not responded to an item was asked if he or she was

in agreement with the respondent's answer. Items not in agreement were noted on the respective interview form; however, the subordinate-superordinate relationship of the respondents may have biased some responses. In each case, we tried to visit further with the Director of Nursing (the subordinate) after the interview session was completed to assure we had his/her unbiased opinions. We were not able to do the same with the administrator who also could have been influenced in responses by the presence of the director of nursing. A second limitation relates to the problem of obtaining an interview from both subjects. Although an appointment was made for each interview, both subjects were not always available. Particularly noted was the availability of the director of nursing in small hospitals where he or she also performed nursing services and was not available because of such unforseen events as emergencies. Because of the statewide coverage, the interviewer was not always able to reschedule interviews, particularly in rural areas of the State. In addition, one urban hospital administrator who claimed also to be the director of nursing was unwilling to sit for the interview.

Analysis of the data included testing of the three hypotheses by use of the Chi-Square statistical technique and descriptive statistics, i.e., frequencies, percentages, and means to describe results of the samples. Student's t was used to identify significant differences between present and future numbers of personnel in each level of nursing services. A straight-line estimation technique was used to predict increases or decreases in personnel needs five years in the future but based on current facility sizes.

TABLE I

POPULATIONS, SAMPLES AND RESPONDENTS
BY TYPE AND SIZE OF FACILITY

Facility Size	Population	Sample	Respondents	
			Administrators	Directors of Nursing
HOSPITALS:				
49 or less beds	57	8	6	3
50 - 99 beds	37	4	3	3
100 - 199 beds	24	3	2	3
200 - 499 beds	15	2	0	2
500 or more beds	5	1	0	0
Total hospital	138	18	11	11
NURSING HOMES:				
49 or less beds	62	3	2	2
50 - 99 beds	208	10	8	8
100 or more beds	101	5	4	5
Total Nursing Home	371	18	14	15
VETERANS CENTER:	5	1	1	1

Results

The results of this study are reported in two sections. The first section gives results of the interview which relates to the major purpose of comparing current nursing services staffing patterns to desired future staffing patterns. Also considered will be the remaining questions from the interview which were included in an attempt to identify current critical needs in nursing education.

The second section of the results will deal with results of the opinionnaire relating to training levels necessary to perform certain nursing tasks.

Interview Responses:

Interviews were obtained from 17 hospitals, 1 veterans center, and 18 nursing homes. Table II delineates the number of respondents by type of facility and type of respondent.

TABLE II

RESPONDENTS TO THE INTERVIEW

Type of Facility	Number and Type of Respondents	
	Administrator	Director of Nursing
Hospital (N = 17)	11	11
Nursing Home (N = 18)	14	15
Veterans Center (N = 1)	1	1
Total Respondents by Type	26	27

Hypotheses two and three were tested at the outset of analyses to see if respondents differed by institution type or by job type. Hypothesis three states: there will be no significant difference in future staffing patterns of nursing services personnel desired between hospitals and nursing homes. Responses to Question 3 were converted to percentages

of the total nursing staff in a facility who would be Aides, Licensed Practical Nurses, and Registered Nurses, respectively. Chi-Square analyses, displayed in Table III, were made to compare hospitals and nursing homes by job type responses and by average reponses of the two respondent types. All three null hypotheses were rejected; there is a relationship between staffing patterns and type of institution; and it is concluded that any predictions should be developed separately for the two samples and populations.

TABLE III

CHI-SQUARE ANALYSES OF FUTURE STAFFING PATTERNS, HOSPITAL VERSUS NURSING HOME

Respondent Type	Percent Aides	Percent LPN's	Percent RN's
Hospital Administrators	29.7	29.5	40.8
Nursing Home Administrators	74.4	20.3	5.3
$X^2 = 48.23$ probability $< .0001$			
Hospital Dir. of Nursing	28.8	28.0	43.2
Nursing Home Dir. of Nursing	71.4	22.8	5.8
$X^2 = 47.19$ probability $< .0001$			
Average Hospital Response	29.2	28.8	42.0
Average Nursing Home Response	72.8	21.6	5.6
$X^2 = 47.50$ probability $< .0001$			

The second hypothesis states: there will be no significant differences in future staffing patterns of nursing services personnel desired between health care institution administrators and directors of nursing.

Because of the results of the previous tests, this hypothesis was tested by comparing hospital administrators to hospital directors of nursing and nursing home administrators to nursing home directors of nursing. Again, responses were converted to percentages for the analyses which are displayed in Table IV. The results of these analyses indicate that the administrator and director of nursing in a health care facility are usually in very close agreement with regard to nurse staffing needs. This conclusion was verified empirically as well as in a comparison of paired answers to question three. There were fifty cases of direct agreement between administrator and director of nursing in the direction of change desired as opposed to ten cases of disagreement. In five of the ten cases of disagreement, the administrator opted for a cut in a personnel level where the director of nursing opted for no change. In four cases the administrator opted for an increase while the director of nursing opted for no change, and in one case the reverse was true. In no cases did one respondent opt for an increase in personnel at a level where the other respondent opted for a decrease. What seemed to be particularly remarkable was that in 47 of the cases of agreement in direction of change, the number of personnel to be added or deleted was exactly the same.

TABLE IV

CHI-SQUARE ANALYSES OF FUTURE STAFFING PATTERNS, ADMINISTRATOR VERSUS DIRECTOR OF NURSING

Respondent Type	Percent Aides	Percent LPN's	Percent RN's
Hospital:			
Administrators	29.7	29.5	40.8
Directors of Nursing	28.8	28.0	43.2
X^2 = .12 probability = .94			
Nursing Homes:			
Administrators	74.4	20.3	5.3
Directors of Nursing	71.4	22.8	5.8
X^2 = .23 probability = .89			

The first hypothesis stated there would be no difference between current and desired future staffing patterns. The average between what administrators desired and what directors of nursing desired was used in testing the hypothesis. Since no differences were found between administrators and directors of nursing, it was rationalized that the best estimate of a given facility's future staffing would be the average of both predictions. Table V displays the Chi-Square analyses comparing present to future staffing patterns for hospitals and for nursing homes. Results were not sufficient to reject the null hypothesis in either the hospital or nursing home setting. There is no significant difference between the averages of present staffing patterns and the averages of future staffing patterns.

A tally was made of the number of respondents who indicated that they hoped to decrease, increase, or keep the same number of personnel at each of the three levels of training. A Chi-Square analysis of the resulting distributions, displayed in Table VI does indicate a significant relationship. Observation indicates that there is a tendency of the respondents to desire an increase in practical nurses and registered nurses and a decrease in nursing aides. Although this finding seems to refute the previous finding regarding staffing patterns, the more logical answer is that some change is desired but not a change of great significance.

TABLE V

CHI-SQUARE ANALYSES OF PRESENT AND FUTURE STAFFING PATTERNS FOR NURSING PERSONNEL

Time	Percent Aides	Percent LPN's	Percent RN's
Hospitals:			
Present	41.9	26.4	31.7
Future	29.2	28.8	42.0
$X^2 = 3.81$ probability = .149			
Nursing Homes:			
Present	80.5	16.5	3.0
Future	72.8	21.6	5.6
$X^2 = 1.86$ probability = .60			

TABLE VI

CHI-SQUARE ANALYSIS OF DIRECTION OF CHANGE
DESIRED BY RESPONDENTS

Desired Direction of Change	Aides	LPN's	RN's
Hospitals:			
Decrease Personnel	10	5	2
No Change in Personnel	9	6	8
Increase Personnel	3	11	12
$X^2 = 12.00$	probability = .017		
Nursing Homes:			
Decrease Personnel	1	1	1
No Change in Personel	23	5	17
Increase Personnel	5	23	11
$X^2 = 23.42$	probability < .0001		

Although there were not significant differences in the overall patterns of nursing services staffing, there were observable differences in the number of personnel at a given education level between present staffing and future desired staffing. A Student's test was used to test for mean differences between present and future numbers of staff at each level and by type of institution. Results of those tests are displayed in Table VII. There was a significant decrease desired in the number of aides in hospital settings, from an average number of 25 down to approximately 14. There was a significant increase in both LPN's and RN's desired in nursing homes, an increase of about 1 1/2 and 1/2 respectively desired on the average. Nursing home aides and hospital

LPN's and RN's all showed a slight average increase; however, none were great enough to be considered significant.

TABLE VII

TESTS OF DIFFERENCES BETWEEN PRESENT AND FUTURE NURSING STAFF BY LEVEL OF EDUCATION AND TYPE OF INSTITUTION

Level	Hospital		Nursing Home	
	Present	Desired	Present	Desired
Number of Aides in Sample	425.5	240.5	335	339
Mean # Aides per Facility	25.03	14.15	18.61	18.83
	t = 2.22 p = .04 r = .48		t = .94 p = .36 r = .99	
Number of LPN's in Sample	377.5	380	65	91.5
Mean # LPN's per Facility	22.20	22.35	3.61	5.08
	t = .02 p = .98 r = .59		t = 4.80 p = .0002 r = .83	
Number of RN's in Sample	629	721.5	12	20.5
Mean # RN's per Facility	37.0	42.4	.67	1.14
	t = 1.34 p = .20 r = .97		t = 2.27 p = .04 r = .34	

Correlations are also listed in Table VII to indicate the amount of agreement among respondents in the institutions of the same type. An almost perfect correlation occurred among nursing home respondents, because all were in agreement to either keep the same number of staff or increase staff. The lowest correlation, a .34, was also on the nursing home respondents with regard to RN's where seven desired an increase, one opted for a decrease, and ten wanted no change. High

correlations occurred with regard to hospital RN's where eleven institutions wanted an increase, and with regard to nursing home LPN's where fifteen of the eighteen facilities wanted an increase.

On the basis of the significant tests, an estimation of change was predicted for the population of hospitals with regard to Aides, and for the population of nursing homes with regard to LPN's and RN's. These estimations must be viewed with caution, however, because of the small samples involved. A most serious limitation was caused by the inability to gain a response from the largest hospital--which means that the five hospitals in the State with more than 500 beds are not represented. Even so, the responses from two hospitals in Oklahoma City with over 300 beds may adequately represent the larger hospitals. Further, the estimates do not consider changes that may take place in number of facilities, growth in size of facilities, or changes required because of changed federal and state rules and regulations.

Two methods were used to estimate additional RN's and LPN's desired in the nursing homes and the decrease in Aides in hospitals. Table VIII lists the data used in calculating estimated desired changes. The formulas used to estimate to the population were:

Estimate = population beds/sample beds (sample staff - desired sample staff)

or

Estimate = population facilities/sample facilities (sample staff - desired sample staff)

When using the number of beds in the formula, there is an estimated decrease of 1,635 aides in hospitals and an increase of 180 RN's and 563 LPN's desired in nursing homes. Using the formula based on number of facilities, a slightly more conservative change was indicated with a decrease of 1,502 aides in hospitals and an increase of 175 RN's and

546 LPN's in nursing homes.

Because the samples were stratified by size of institution, it may be of some interest to the readers to see a breakdown on staffing patterns by size of institution. These data, displayed in Table VIII, seem to indicate that the greatest reduction in aides is desired in the large hospitals, but that there is consistent desire to replace aides with better trained or licensed personnel at all hospitals. The reduction of LPN's in the 100-199 bed hospital is the result of one of the three institutions desiring 100 percent RN's.

TABLE VIII

AVERAGE PERCENT NURSING STAFF
BY TYPE AND SIZE OF INSTITUTION

Size	Percent Aides		Percent LPN's		Percent RN's	
	Now	Future	Now	Future	Now	Future
Hospitals:						
1-49 beds	43.8	30.3	25.2	25.8	31.0	43.9
50-99 beds	51.0	31.0	22.5	37.7	26.5	31.3
100-199 beds	39.6	27.0	34.9	21.2	25.5	51.8
200 plus beds	8.1	0.0	22.5	32.5	69.4	67.5
Nursing Homes:						
1-49 beds	79.6	75.4	13.8	14.2	6.6	10.4
50-99 beds	79.9	69.9	17.7	24.3	2.4	5.8
100 plus beds	82.2	77.8	15.2	19.9	2.6	2.3

Respondents were asked if they were presently trying to maintain the staffing pattern or if they were changing as new personnel are hired. Five hospital and two nursing home respondents indicated they were trying to move to a more desirable staffing pattern as appropriate personnel were available. The veterans centers were also seeking a change, however, their current budget includes eleven RN positions they

have filled with LPN's because the registered nurses were not available.

Those who desired to change staffing were asked the economic and patient care effects. Twenty-four indicated costs would be higher to the patient, while eleven thought costs would remain essentially the same. Two respondents remarked that there is less "down time" for the better trained personnel; therefore, costs would not increase. One remarked that there is not as much turnover in the better educated staff, and reduced turnover would offset increased salaries. Thirty respondents indicated that patient care would be better if they could move to the desired staffing patterns. Several were concerned about having equally qualified staff on all shifts. Almost all of the nursing home respondents made some comment about the desire to have at least one licensed person on every shift. Three hospital staff indicated the changed staffing pattern was necessary if they were to move toward the total patient care concept.

Eleven hospital staff indicated personnel were not "mis-assigned." Three stated LPN's occasionally had to do RN level work; one stated aides had to do LPN level work; and one stated RN's occasionally were required to do jobs for which they were over-qualified. One administrator remarked that in terms of education the staff were not mis-assigned but that sometimes an experienced LPN would make the best charge nurse but could not be the charge nurse if an RN was available. Only three nursing home respondents felt staff were mis-assigned, although five had something to say about lack of training. One stated that LPN's were required to do aide work; one stated that experienced aides had to do work normally at the LPN level; and one indicated medical aides (who were not a part of this study) were not qualified.

Respondents were asked what the most critical needs are in nursing education, and how those needs could be satisfied. Table XI lists the responses. The only significant agreement among hospital respondents was that staff at all levels need more clinical experience. Several commented that those who have extensive clinical training in the educational programs are far superior to those who do not. Other needs listed seemed to relate more to the specific hospital site since no more than two respondents suggested critical needs other than the clinical experience.

The nursing home respondents were most concerned with clinical experience in the nursing homes, geriatrics training, and obtaining trained aides. Several commented that aide training was given in their areas, but that there were not enough trained aids to serve both nursing homes and hospitals and hospitals were able to pay a better salary. Due to the fact that nursing homes have to hire untrained aides, they also have a problem with general education. One administrator stated she would be happy if she could hire aides who could read!

Suggestions for solving the nursing education needs are listed in Table X. As might be expected, the large majority of the suggestions had to do with requirements for more time in training in the clinical area or requiring an internship or practicum.

TABLE IX

CRITICAL NEEDS IN NURSING SERVICES

Need	Hospital Respondents	Nursing Home Respondents
Clinical experience	17	9
Geriatrics training	0	8
Trained aides	1	5
General education	1	4
Reality orientation	2	1
Critical care training	0	3
Management skills	1	2
Communication between school and hospitals	2	0
Personal relations with patient and family	0	2
Current technology	1	0
More RN programs	1	0
More LPN programs	0	1
Coping with stress	1	1
Legal aspects of nursing	1	0
Moral and ethical relations	1	0
Recognizing symptoms and vital signs	0	1
Continuing or in-service training	0	1
LPN's need to be able to start IV's and oxygen	0	1

Respondents were asked about their orientation training for new employees. One hospital and three nursing homes required six or more weeks of training for aides before they were considered capable of working without direct supervision. In all four cases the aides are hired without previous training and are trained in the institution. One hospital requires extensive training for both RN's and LPN's. It was indicated that they felt they were probably unique in this training but they made the orientation part of the overall education program of the hospital to assure their licensed personnel were generalists. A second hospital has six weeks or more training for their registered nurses because they feel the programs are inadequate.

TABLE X

SUGGESTIONS FOR MEETING CRITICAL NURSING EDUCATION NEEDS

Suggestion	Hospital Respondents	Nursing Home Respondents
Require more time in clinical area	15	13
Require internship or practicum	8	7
Allow specializing:		
Geriatrics	0	6
Mental patient care	0	1
Broader clinical exposure to include:		
Team decision making	1	0
Multiple patient care	1	0
Nursing Home	0	3
Evening and night shift	1	0
Workshops or additional courses in:		
Community relations	2	0
Geriatrics	0	2
Legal aspects	1	1
Reality orientation	0	1
Change State regulations:		
Increase nurse aid requirements	0	2
1 year internship in BSN	1	0
ADN, 2 years plus one year internship	2	0
Make one level of RN's	1	0
Change hospital regulations	2	0
More coop or joint appointments between schools and hospitals	2	0
Better screening into programs	2	0

Without exception, all respondents felt there should be a career ladder in nursing education whereby an individual might move upward from aide to licensed practical nurse to registered nurse and from associate degree or diploma registered nurse to the baccalaureate level. Twenty-seven respondents did not think such a career ladder now exists, or at least the process is not as good as it should be. One respondent stated that ADN's with no experience have more recognized credit toward the BSN than do diploma nurses with three years of training and much experience. One person stated part of the problem was with chemistry requirements for courses in which the material is never used

by nurses. Three respondents indicated that the ladder could be much improved if there was some way to challenge that would recognize knowledge gained by experience. Eighteen respondents indicated they felt the ladder was acceptable, perhaps needing only minor improvements.

Competency Opinionnaire Responses

The purpose of the Nurse Training Competency Opinionnaire was to obtain opinions of administrators and directors of nursing with regard to the level of training required to perform selected tasks in the hospitals and nursing homes. The tasks selected were in general tasks that could not be clearly ascribed to a given level of nursing. This part of the study was added to the original purpose of the study to aid LPN program coordinators in reviewing and revising curriculum content.

Respondents were asked to indicate the level of nursing personnel in their institutions that perform the task and to indicate the lowest nursing level of personnel who should be doing the task. Although both the administrator and the director of nursing was asked to complete the opinionnaire, only two hospital administrators and six nursing home administrators did complete it. In four cases it is known that the Director of Nursing and Administrator filled out the opinionnaires together, and in the other two cases, no differences were found between responses from a given institution.

The writer is not competent to make an analysis of the data obtained from the opinionnaire. For those readers who are interested in examining those results in detail, four tables indicating the responses by type of institution for the present and what should be are in the Appendix immediately following the opinionnaire. We did make an analysis to identify those items on which respondents by type of institution significantly differed with regard to what should be. As might be expected,

the nursing home respondents in every case selected a lower level of education required to perform the competency. Those competencies where differences were noted are numbers 6, 14, 16, 24, 37, and 42. Readers can observe those differences by comparing from Tables 13 and 14 in the Appendix.

Discussion and Conclusions

The major purpose of this study was to compare current nursing staffing patterns in hospitals and nursing homes in Oklahoma to preferred staffing patterns of the future. For those who are responsible for the support of nursing education, such comparisons will offer an important kind of data to add to such evidence as current shortages as long-range plans for programs are made. The manpower supply and demand data from those institutions that hire nursing personnel is often based on personnel budgets and expected growth or recession. This study sought to identify direction of change in personnel needs based on the respondents' philosophy or belief regarding nursing services in the institutions.

Administrators and Directors of Nursing were asked how they would prefer to staff their nursing services--given that there is no shortage of nursing personnel at any level and holding size of institution constant. In every case they were reminded of the advocacy of the American Nursing Association and others with regard to desired changes in nursing education. To our knowledge, each respondent was open with regard to their own desires for improved nursing services. We believe each respondent was sincere in indicating the direction they would go with staffing if they could.

Results indicate that hospitals and nursing homes would have significantly different staffing patterns if the personnel were avail-

able. It was also hypothesized that administrators and directors of nursing in the two types of institutions would not disagree with regard to preferred staffing patterns. The results indicate that this hypothesis should be accepted. Results indicate that staffing patterns are different between hospitals and nursing homes and they will remain significantly different in the future.

Tests between the number of staff currently and the number of staff desired at each level indicate that hospitals would significantly reduce the number of nursing aides, and that nursing homes would significantly increase licensed practical nurses and registered nurses. An average increase of five registered nurses per facility, because of sample size and variance among institutions, was not statistically significant. Practical nurses in the hospital and nursing aides in the nursing homes showed almost no change between current and desired staffing.

Estimations to the population indicate an increase of 175 RN's and 546 LPN's in nursing homes if they were available. Hospitals would reduce nursing aide staff by 1,502. An analysis of responses indicate that the large reduction in nursing aides would be offset by additional LPN's and RN's, but not on a one-for-one basis. The directors of nursing in two hospitals indicated that the better trained staff could accomplish the nursing services more efficiently.

An overwhelming majority of all respondents felt the most critical problem in nursing services that could be solved within education programs was the lack of clinical training for new nursing personnel.

A second concern expressed by several nursing home respondents was the lack of knowledge in geriatrics. Several respondents were particularly complimentary of Diploma and LPN programs because of the clinical training offered therein.

As a result of the study, we can make the following conclusions:

1. Those persons in hospitals responsible for developing the budgets and for hiring nursing personnel will seek to decrease the numbers of nursing aides and replace them with licensed or registered personnel as LPN's and RN's are available. Several of the hospitals will move toward the total patient care concept as rapidly as personnel can be obtained. Others, generally the smaller hospitals, will replace aides with higher level staff to obtain greater efficiency in their nursing services.

2. The nursing home staff responsible for hiring nursing personnel will, because of economics, probably keep a minimum staff to meet State requirements. Perhaps a few more LPN's will be hired if they are available at minimum wages, which means that nursing programs will have to fill the shortages before nursing homes can afford additional LPN's. We can also conclude, from an economic standpoint, that Oklahoma must continue to train LPN's in the one-year programs to serve nursing homes since additional educational requirements would most certainly be followed by higher wage demands.

None of the research staff who worked on this study have a health occupations background. There are, however, several recommendations that need to be made in relation to health occupations education in Oklahoma.

1. Persons responsible at the State level for planning and support of vocational education must consider the licensed practical nursing program particularly viable now and in the foreseeable future. Planning should consider current manpower supply and demand data to be somewhat conservative on the demand side since these data are more likely to be based on budgeted positions rather than desired positions. This study indicates a direction of change in nursing personnel that is probably not identified in manpower surveys.

2. For the reason listed above, some expansion of registered nurse programs is necessary. Although the investigator can not recommend the registered nurse level or levels that could best be expanded, there is still a shortage of registered nurses and an expected change in staffing which will demand more registered nurses.

3. Programs in nursing aide training should be planned to better serve nursing home needs. The pay scales in the nursing homes are not particulary conducive to nursing personnel; however, those who desire to work with the aged should be given training opportunities. Perhaps some workshops in geriatrics for personnel inservice would help to fill this critical need. Licensed practical nurses and registered nurses should also have the opportunity to specialize in geratrics if they so desire.

4. Nursing programs at all levels should include as much clinical experience and as varied clinical experience as can be made feasible. Experimental or demonstration programs should be developed to see if internships or additional time added to programs would have a positive effect on nursing services.

APPENDIX

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE., • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

November 20, 1978

(To hospital and nursing home administrators in samples)

Dear :

The Research Unit of the State Department of Vocational and Technical Education has been asked to obtain data from hospital and nursing home administrators and directors of nursing. The purpose of our study is to identify changing patterns of staffing nursing personnel--which data will be used by State Department staff in long range planing of support for nursing education programs in Oklahoma.

Your (hospital/nursing home) is one of 18 selected by random sampling procedures to represent the (hospitals/nursing homes) across the State. We will be collecting the data by means of short interviews with you and your director of nursing, and an opinionnaire which is enclosed.

We will be telephoning you and other administrators in the near future to make appointments for the interviews. Hopefully, we will be able to complete them by the end of December. We will collect the completed opinionnaires at the interveiws.

During the interview we will be asking about your staffing of Aide, LPN, ADN, Diploma, and BSN nursing personnel--present and future patterns of staffing, orientation to your institution, and critical needs in nursing education. We should be able to complete the interview in 20-30 minutes.

We do appreciate your cooperation and look forward to visiting with you.

Sincerely,

Wm. D. Frazier, Ed.D.
Director
Research Coordinating Unit

enclosures

Institution _____
Respondent: ADM ___ Dir. of Nursing ___
Other _____

NURSING INTERVIEW QUESTIONNAIRE

1. What is your present nurse staffing pattern? How many of each type nursing staff do you employ?

	Aide	LPN	ADN	Diploma	DSN
Currently	____	____	____	____	____
Openings	____	____	____	____	____

2. Do you currently try to maintain about the same staffing pattern when hiring new nursing personnel?

   Yes ____ No ____

   If "no" how are you trying to change the pattern?

   _____

3. What do you want your nurse staffing pattern to look like in your institution five years from now?

   ____ ____ ____ ____ ____

4. What will be the economic effect on patients if such staffing pattern is accomplished? (Not considering inflation or growth factors)

   Higher costs ____ Lower costs ____ About the same ____

   Other comments _____

5. What will be the effects on quality of patient care?

   _____

6. Do you presently have staff who are "mis-assigned" in terms of: (explain)

   Underqualified _____

   Overqualified _____

   Incorrect training specialty _____

   Shortage or Oversupply _____

7. What do you think is the most critical need in nursing education?

Better all-around education ____ More critical care training ____

More clinical experience ____ More experience with current technology ____

More management skills ____ Different program objectives ____

Please explain _____

8. What would be the best way to satisfy this need?

More academic background ____ More time in clinical area ____

Internship or practicum ____ Other _____

9. Do you provide orientation training at your facility for:

Aides ____ LPN's ____ ADN's ____ Diploma ____ BSN's ____

10. How much orientation is required?

Intensive, 6 weeks +	____	____	____	____	____
Average 3-6 weeks	____	____	____	____	____
Minimal 3 weeks	____	____	____	____	____

11. If you rated any as intensive, why is such orientation necessary?

Inadequate program	____	____	____	____	____
Changed Technology	____	____	____	____	____
Changed patient needs	____	____	____	____	____
Unique nature of our institution	____	____	____	____	____

12. Do you feel that a career ladder supported by educational programs now exists between the nursing levels?

____ Yes ____ No

13. Should there be? Yes ____ No ____

Why not? _____

14. Who completed the competency opinionnaire? _____

Institution: _____

___Administrator
___Director of Nursing
___Other

NURSE TRAINING
COMPETENCY OPINIONNAIRE

Listed below are tasks or competencies accomplished by different levels of personnel at different institutions. Please circle the level of nursing personnel who perform the task at your institution. Then "X" or cross out the lowest level you believe should perform the task. You may, of course, both circle and cross out a level where you believe the task is performed by persons at the proper level or training. Feel free to qualify your response to an item by commenting in the space below the item.

Examples:

Deliver messages, flowers to patients.	Aide	LPN	ADN	Diploma	BSN	Other
Takes and records temperatures.	Aide	LPN	ADN	Diploma	BSN	Other

---

1. Teaches the importance of proper nutrition and explains the modification of special diets.	Aide	LPN	ADN	Diploma	BSN	Other
2. Adapts nursing measures to meet basic needs of patients at all stages of growth and development.	Aide	LPN	ADN	Diploma	BSN	Other
3. Administers basic supportive nursing care to the semi-conscious and unconscious patient.	Aide	LPN	ADN	Diploma	BSN	Other
4. Operates circo-lectric bed, Stryker frame, or patient lifters when lifting or moving patients.	Aide	LPN	ADN	Diploma	BSN	Other
5. Admits patients	Aide	LPN	ADN	Diploma	BSN	Other
6. Observes common signs and symptoms of oxygen insufficiency and initiates appropriate action such as application of oxygen mask, insertion of a cannula, or use of a humidifier.	Aide	LPN	ADN	Diploma	BSN	Other
7. Observes, records, and reports patient's acceptance and/or tolerance of diet.	Aide	LPN	ADN	Diploma	BSN	Other

8. Adapts basic nursing care to meet special needs of sensory-deprived and mentally handicapped individuals.	Aide	LPN	ADN	Diploma	BSN	Other
9. Gathers data from chart references, books, patient, and family, and team conferences to use in preparing a nursing c re plan.	Aide	LPN	ADN	Diploma	BSN	Other
10. Observes signs of anxiety, verbal and non-verbal.	Aide	LPN	ADN	Diploma	BSN	Other
11. Identifies, records, and reports early common signs of tissue anoxia, edema, or breakdown; infection contractures and deformities.	Aide	LPN	ADN	Diploma	BSN	Other
12. Identifies patient's needs and problems and initiates nursing care plans.	Aide	LPN	ADN	Diploma	BSN	Other
13. Identifies, records, and reports signs of shock or hypertension.	Aide	LPN	ADN	Diploma	BSN	Other
14. Starts intravenous fluids according to doctor's orders.	Aide	LPN	ADN	Diploma	BSN	Other
15. Maintains and monitors intravenous fluids according to doctor's orders by changing bottles, tubing, or dressing; by regulating the rate of administration; and observing intravenous site for complications.	Aids	LPN	ADN	Diploma	BSN	Other
16. Discontinue flow of intravenous fluids.	Aide	LPN	ADN	Diploma	BSN	Other
17. Implements prescribed therapeutic activity such as dangling, ambulating, passive range of motion, etc.	Aide	LPN	ADN	Diploma	BSN	Other
18. Observes for and identifies therapeutic and side effects of medications.	Aide	LPN	ADN	Diploma	BSN	Other
19. Observes the effectiveness of or reaction to respiratory therapy.	Aide	LPN	ADN	Diploma	BSN	Other
20. Identifies and reports obvious signs and symptoms of elimination problems.	Aide	LPN	ADN	Diploma	BSN	Other
21. Records and reports emotional responses.	Aide	LPN	ADN	Diploma	BSN	Other

22. Correctly turns, positions, and supports patients.	Aide	LPN	ADN	Diploma	BSN	Other
23. Evaluates and updates care plans and goals.	Aide	LPN	ADN	Diploma	BSN	Other
24. Uses appropriate resources to determine dosage, action, and side effects of drugs.	Aide	LPN	ADN	Diploma	BSN	Other
25. Evaluates adequacy of functioning of nasogastric tubes and proper positioning to promote drainage and prevent trauma.	Aide	LPN	ADN	Diploma	BSN	Other
26. Appraises, records, and reports patient's response to nursing care.	Aide	LPN	ADN	Diploma	BSN	Other
27. Supports mental health through the establishment of positive interpersonal relationships.	Aide	LPN	ADN	Diploma	BSN	Other
28. Observes, measures, records, and reports fluid intake.	Aide	LPN	ADN	Diploma	BSN	Other
29. Participates in reality orientation measures.	Aide	LPN	ADN	Diploma	BSN	Other
30. Prepares and administers medications:						
a. Oral	Aide	LPN	ADN	Diploma	BSN	Other
b. Injections	Aide	LPN	ADN	Diploma	BSN	Other
c. Other, e.g., ointments, suppositories eye, ear, and nose drops.	Aide	LPN	ADN	Diploma	BSN	Other
31. Identifies, records, and reports symptoms of circulatory deficiency and performs prescribed therapeutic measures as necessary.	Aide	LPN	ADN	Diploma	BSN	Other
32. Evaluates own performance in nursing situations.	Aide	LPN	ADN	Diploma	BSN	Other
33. Uses appropriate techniques such as irrigation when caring for patients with wounds.	Aide	LPN	ADN	Diploma	BSN	Other
34. Supports patients through stages of adjustment to death and dying such as denial, anger, bargaining, depression, and acceptance.	Aide	LPN	ADN	Diploma	BSN	Other

35. Cares for patients in traction and with casts, observing principles of safety, body positioning, and exercise.	Aide	LPN	ADN	Diploma	BSN	Other
36. Discharges patients.	Aide	LPN	ADN	Diploma	BSN	Other
37. Evaluates effects of communications on co-workers and patients.	Aide	LPN	ADN	Diploma	BSN	Other
38. Maintains proper techniques for patients on isolation both for the patient's protection as well as for other patients and personnel.	Aide	LPN	ADN	Diploma	BSN	Other
39. Administers common nursing procedures related to elimination such as administering:						
a. Enemas	Aide	LPN	ADN	Diploma	BSN	Other
b. Colostomy	Aide	LPN	ADN	Diploma	BSN	Other
c. Catheter irrigation	Aide	LPN	ADN	Diploma	BSN	Other
d. Catheterization	Aide	LPN	ADN	Diploma	BSN	Other
40. Employs nursing measures to relieve pain or discomfort (e.g., back rubs, position change, and diversion, etc.).	Aide	LPN	ADN	Diploma	BSN	Other
41. Takes doctor's verbal orders.	Aide	LPN	ADN	Diploma	BSN	Other
42. Transcribes doctor's orders.	Aide	LPN	ADN	Diploma	BSN	Other
43. Monitors specialized instruments;						
a. Cardiac Monitors	Aide	LPN	ADN	Diploma	BSN	Other
b. Fetal Monitors	Aide	LPN	ADN	Diploma	BSN	Other
c. Respirators	Aide	LPN	ADN	Diploma	BSN	Other

TABLE XI

NURSING TRAINING COMPETENCY OPINIONNAIRE
HOSPITAL RESPONSES TO WHO PERFORMS TASKS

Competency Item	Number of Responses Aide	LPN	RN	Other	Competency Item	Number of Responses Aide	LPN	RN	Other
1.		4	3	7	26.	4	5	5	
2.	4	2	6		27.	4	4	6	
3.	7	3	3		28.	9	2	3	
4.	6	4	4		29.	4	2	5	
5.	9	1	3	1	30a.	1	10	3	
6.	1	3	10		30b.		11	3	
7.	5	5	4		30c.	1	10	3	
8.	3	2	9		31.	1	6	7	
9.	1	1	12		32.	4	2	5	
10.	5	5	4		33.	1	8	5	
11.	3	7	4		34.	6	2	6	
12.		6	8		35.	7	4	3	
13.	2	8	4		36.	6	3	3	1
14.		4	10		37.	1	1	11	
15.		7	7		38.	5	1	8	
16.	2	8	4		39a.	10	2	2	
17.	8	4	2		39b.	6	5	3	
18.		11	3		39c.	4	7	3	
19.	1	6	3	4	39d.	1	10	3	
20.	9	1	4		40.	10	2	2	
21.	4	4	6		41.	1	8	5	
22.	9	3	2		42.	1	8	4	1
23.		5	9		43a.	1	5	6	
24.		9	4		43b.		4	4	
25.		7	7		43c.		3	6	2

TABLE XII

NURSING TRAINING COMPETENCY OPINIONNAIRE
NURSING HOME RESPONSES TO WHO PERFORMS TASKS

Competency Item	Number of Responses Aide	LPN	RN	Other	Competency Item	Number of Responses Aide	LPN	RN	Other
1.	1	6	1	7	26.	4	12	1	
2.	1	9	2	2	27.	4	7	1	3
3.	7	10			28.	14	3		
4.	11	2		1	29.	6	5		4
5.	3	13		1	30a.	7	7	2	1
6.	3	14			30b.	5	10		1
7.	12	3		1	30c.	7	6	2	1
8.	1	12	2		31.	6	10	1	
9.		7	5	3	32.	2	6	3	1
10.	8	8			33.	1	15	1	
11.	9	8			34.	4	5	4	3
12.	1	10	5	1	35.	7	10		
13.	5	11	1		36.	6	8	2	1
14.		10	6		37.	1	6	5	4
15.	1	12	3		38.	4	7	4	1
16.	2	15			39a.	12	5		
17.	8	5	1	3	39b.	9	7		
18.	4	12	1		39c.	8	8		
19.	3	9		1	39d.	4	12		
20.	15	2			40.	13	4		
21.	8	8			41.		17		
22.	17				42.		17		
23.		11	3	1	43a.		3	6	
24.	1	10	2	2	43b.		3	5	
25.	1	11	5		43c.		4	4	

TABLE XIII

NURSING TRAINING COMPETENCY OPINIONNAIRE
NURSING HOME RESPONSES TO WHO SHOULD PERFORM TASKS

Competency Item	Number of Responses Aide	LPN	RN	Other	Competency Item	Number of Responses Aide	LPN	RN	Other
1.		4	7		26.	4	7	2	
2.	5	1	8		27.	7	3	3	
3.	8	4	1		28.	9	4		
4.	6	4	4		29.	5	4	2	
5.	9	3		1	30a.	1	11	1	
6.	1	6	7		30b.	3	9		1
7.	6	6		2	30c.	1	11	1	
8.	4	5	5		31.	1	8	5	
9.	1	3	10		32.	6	2	3	
10.	8	4	2		33.	2	9	3	
11.	5	8	1		34.	7	1	5	1
12.		7	6		35.	9	4	1	
13.	3	8	2		36.	6	6		
14.		5	8		37.	2		10	
15.		8	5		38.	8	2	4	
16.	1	8	4		39a.	10	3		
17.	8	4		1	39b.	4	6	2	
18.		13			39c.	3	9		
19.		6	1	2	39d.		12		
20.	9	3			40.	12	2		
21.	7	3	4		41.	2	9	3	
22.	10	1	1		42.	1	5	2	3
23.		6	8		43a.	1	8	4	
24.		7	5		43b.		6	2	
25.	1	6	6		43c.		5	4	

TABLE XIV

NURSING TRAINING COMPETENCY OPINIONNAIRE
NURSING HOME RESPONSES TO WHO SHOULD PERFORM TASKS

Competency Item	Number of Responses Aide	LPN	RN	Other	Competency Item	Number of Responses Aide	LPN	RN	Other
1.	2	6	1	1	26.	1	11	1	1
2.	3	7	2		27.		6		6
3.	6	8		1	28.	12	2		
4.	8		1	1	29.	5	5		1
5.	3	10		2	30a.	5	6	2	1
6.	3	10	1		30b.		12	1	
7.	9	5			30c.	5	5	2	1
8.	1	11	1		31.	1	9		1
9.	1	6	4	2	32.	1	7		
10.	7	4		1	33.	1	9	3	
11.	6	7			34.	3	4	1	4
12.	1	7	4		35.	6	7		
13.	3	9	1	1	36.	5	6		2
14.		10	2		37.	1	7	3	2
15.		10	3		38.	2	10		
16.	3	10			39a.	7	3	2	1
17.	7	5		2	39b.	4	4	2	1
18.	3	7	3		39c.	4	5	2	1
19.	1	6	2		39d.	1	10		1
20.	9	2		1	40.	8	3		1
21.	4	6		3	41.	1	12		
22.	11	1		1	42.	1	12		
23.	1	9	2	2	43a.	1	3	3	
24.	1	10			43b.	1	3	2	
25.	1	10	2		43c.	1	4	1	